

Serial No. 10/771,636

Attorney Docket No. 01-548

REMARKS

Claims 1-3 and 5-9 are pending. Claims 4, 10, and 11 have been canceled. The applicants respectfully request reconsideration and allowance of this application in view of the above amendments and the following remarks.

The title was objected to as being non-descriptive. The title has been amended to be more descriptive. Therefore, this objection should be withdrawn.

The drawings were objected to for failing to show all the features claimed in claim 7. Claim 7 has been amended to clarify that the laser beam is not claimed as part of the invention. Therefore, the laser beam need not be shown in the drawings, and this objection should be withdrawn.

Claims 1 and 2 were rejected under 35 USC 102(b) as being anticipated by Behin *et al.* The applicants respectfully request that this rejection be withdrawn for the following reasons.

The Behin *et al.* reference discloses a multi-layer, self-aligned vertical comb drive electrostatic actuator with a first comb structure 25 and a second comb structure 22. The second comb structure is coupled to a movable element 36. A flexure 34 allows the movable element 36 to rotate. (See page 3, paragraph 23.)

However, the Behin *et al.* reference fails to disclose or suggest "a movable side comb-tooth electrode provided at the torsion beam of the movable structure" as claimed in claim 1. In Behin *et al.* reference, the movable element 36 is separate from the second comb structure 22.

Furthermore, the Behin *et al.* reference fails to disclose or suggest a first and second pair of movable side comb-tooth electrodes and fixed side comb-tooth electrodes that are "disposed

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on opposite sides of the torsion beam" as claimed in claim 1. In the Behin *et al.* reference, the first comb structures 25 and second comb structures 22 are disposed on a single side of the movable element 36.

In addition, the Behin *et al.* reference fails to disclose or suggest that "a thickness of the fixed side comb-tooth electrode is greater than that of the movable structure" as claimed in claim 1. The Behin *et al.* reference is silent about any such thicknesses.

For these reasons, the rejection of claims 1 and 2 based on the Behin *et al.* reference should be withdrawn.

Claims 1 and 8 were rejected under 35 USC 102(b) as being anticipated by Costello *et al.* The applicants respectfully request that this rejection be withdrawn for the following reasons.

The Costello *et al.* patent discloses an optical switch with a comb drive actuator 600 with fingers 602, 702. The actuator 600 rotates about hinges 302 as shown in Figs. 19-21. (See in particular Col. 8, lines 60-67 and col. 9, lines 1-27.)

However, the Costello *et al.* patent fails to disclose or suggest "a movable side comb-tooth electrode provided at the torsion beam of the movable structure" as claimed in claim 1. Instead, in the Costello *et al.* patent, the fingers 602, 702 are separate from the hinges 302.

Furthermore, the Costello *et al.* patent fails to disclose or suggest a first and second pair of movable side comb-tooth electrodes and fixed side comb-tooth electrodes that are "disposed on opposite sides of the torsion beam" as claimed in claim 1. Instead, in the Costello *et al.* patent, the fingers 602, 702 are located on only one side of the hinges 302.

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In addition, the Costello *et al.* patent fails to disclose or suggest that "a thickness of the fixed side comb-tooth electrode is greater than that of the movable structure" as claimed in claim

1. The Costello *et al.* patent is silent as to any such thicknesses.

For these reasons, the rejection of claims 1 and 8 based on the Costello *et al.* patent should be withdrawn.

Claims 3 and 4 were rejected under 35 USC 103(a) as being unpatentable over Behin *et al.* or Costello *et al.* in view of Li *et al.* Claim 4 has been canceled and will not be discussed. As for claim 3, the applicants respectfully request that this rejection be withdrawn for the following reasons.

Claim 3 is dependent on claim 1 and is therefore considered to be patentably distinguished over the references of record for the reasons given above with respect to claim 1 above.

Further, the Li *et al.* patent fails to supply what is missing in Behin *et al.* and Costello *et al.* The Li *et al.* patent discloses a micromirror array that includes a plurality of movable combs 506 that are coupled to springs 306. The movable combs 506 are vertically disposed between upper actuators 502 and lower actuators 504. The movable combs 506 move between the upper actuators 502 and lower actuators 504. However, for example, the Li *et al.* patent fails to disclose or suggest that "a thickness of the fixed side comb-tooth electrode is greater than that of the movable structure" as claimed in claim 1. The Li *et al.* patent is silent as to any such thicknesses. Therefore, this rejection should be withdrawn.

Claim 5 was rejected under 35 USC 103(a) as being unpatentable over Behin *et al.* or Costello *et al.* in view of Miller *et al.* The applicants respectfully request that this rejection be withdrawn for the following reasons.

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Claim 5 is dependent on claim 1 and is therefore considered to be patentably distinguished over the references of record for the reasons given above with respect to claim 1 above.

Further, the Miller *et al.* patent fails to supply what is missing in Behin *et al.* and Costello *et al.* For example, the Miller *et al.* patent fails to disclose or suggest that "a thickness of the fixed side comb-tooth electrode is greater than that of the movable structure" as claimed in claim 1. Therefore, this rejection should be withdrawn.

Claim 6 was rejected under 35 USC 103(a) as being unpatentable over Behin *et al.* or Costello *et al.* in view of Lee *et al.* The applicants respectfully traverse this rejection.

Claim 6 is dependent on claim 1 and is therefore considered to be patentably distinguished over the references of record for the reasons given above with respect to claim 1 above. Therefore, the applicants respectfully request that this rejection be withdrawn.

Further, the Lee *et al.* patent fails to supply what is missing in Behin *et al.* and Costello *et al.* For example, the Lee *et al.* patent fails to disclose or suggest that "a thickness of the fixed side comb-tooth electrode is greater than that of the movable structure" as claimed in claim 1. Therefore, this rejection should be withdrawn.

Claims 7 and 9 were rejected under 35 USC 103(a) as being unpatentable over Behin *et al.* or Costello *et al.* in view of Jain *et al.* Claims 7 and 9 are dependent on claim 1 and are therefore considered to be patentably distinguished over the references of record for the reasons given above with respect to claim 1 above. Further, the patent to Jain *et al.* fails to supply what is missing in Behin *et al.* and Costello *et al.*

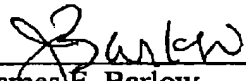
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In view of the foregoing, the applicants submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the examiner is invited to contact the undersigned by telephone.

If there are any problems with the payment of fees, please charge any underpayments and credit any overpayments to Deposit Account No. 50-1147.

Respectfully submitted,



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